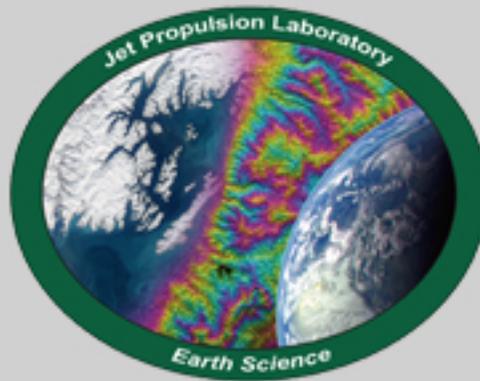


Earth Science Seminar

Monday
19 March 2012
11:00 AM



in JPL Bldg. 180-101
Contact: Jonathan Jiang
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GFDL's Latest-Generation Coupled Climate Model CM3

Leo J. Donner
Geophysical Fluid Dynamics Laboratory

In its most recent climate-model development, GFDL has expanded model physics and chemistry with a goal of addressing key emergent problems in climate science, including (1) aerosol-cloud interactions, (2) land and ocean bio-geochemistry, (3) chemistry-climate interactions, and (4) decadal prediction. The GFDL coupled model CM3 has new or significantly revised treatments of clouds, convection, and chemistry to enable cloud-aerosol interactions to be modeled using physically based aerosol activation theory, with atmospheric aerosol and chemistry driven by emissions. The seminar will discuss changes in the formulation of CM3 relative to earlier coupled models and overview its basic simulation characteristics.

About the Speaker

Dr. Leo Donner is a physical scientist at the NOAA Geophysical Fluid Dynamics Laboratory (GFDL) in Princeton, New Jersey, and a lecturer in the Program in Atmospheric and Oceanic Sciences at Princeton University. His research interests are in the development of atmospheric general circulation models, with particular interests in clouds, convection, and radiation. He has recently served as the science chair for the development of GFDL's Atmospheric Model-3, and as a co-chair for the Atmospheric Model Working Group for the NSF/DOE Community Earth System Model. His cumulus parameterizations for general circulation models were among the first to include mesoscale circulations associated with deep convection and vertical velocities as a key component of deep convection, essential for current efforts to treat interactions between aerosols and deep convection in the climate system.

Dr. Donner received his B.S. at the University of Michigan, and M.S. and Ph.D. at the University of Chicago. Prior to joining GFDL and Princeton University, he held positions at NCAR and the University of Chicago.